IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Group Art Unit: 2387

Greg E. Gauthier et. al.

Examiner: Edward H. Tso

Serial No.: 10/605,388

Filed: September 26, 2003

For: METHOD AND SYSTEM FOR CONTROLLABLY TRANSFERRING ENERGY FROM A HIGH VOLTAGE BUS TO A LOW VOLTAGE BUS IN A HYBRID ELECTRIC VEHICLE

Attorney Docket No.: 81044211 / 202-0585

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Mail Stop AF
Commissioner for Patents
U.S. Patent & Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

The Applicants respectfully requests review of the final rejection in the above-identified application. No amendments are being filed with this request. This request is being filed with a notice of appeal.

CERTIFICATE OF MAILING UNDER 37 C.F.R. § 1.8 (FIRST CLASS MAIL)

I hereby certify that this paper, including all enclosures referred to herein, is being deposited with the United States Postal Service as first-class mail, postage pre-paid, in an envelope addressed to: Mail Stop Appeal Brief - Patents, Commissioner for Patents, U.S. Patent & Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450 on:

9-12-06	John Buser	
Date of Deposit	Name of Person Signing	Signature

Remarks

Claims 1- 22 are pending in this application. Claims 1-22 stand rejected in view of prior art and amendments to the Specification stand rejected for including new matter. Claims 1-22 stand rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,313,546 issued to Nishimura (hereinafter "Nishimura '546"). The Applicants submit no new matter was added to the Specification and that the Nishimura patent fails to disclose each limitation of the present invention.

Specification Amendments

The amendments made to the Specification in the response to the Office Action of January 30, 2006 were made to clarify usage of the terms "precharge" and "prestart." No new matter was added. As noted in the portion of the Specification shown below, both of these terms were supported in the original application filing and the meaning and use of the same was not changed or otherwise sufficiently altered to introduce new matter.

> The high voltage bus can be electrically coupled to the low voltage bus by a DC/DC converter, allowing energy to be transferred between the buses. Because the high voltage bus maintains a high voltage, it is typically discharged when the vehicle is not in operation. In doing so, a battery or other high voltage energy storage device coupled to the high voltage bus is isolated from the rest of high voltage bus.
>
> Commonly, the isolation is achieved by opening contactors used to electrically couple the high voltage energy storage device to the rest of the high voltage bus. The open contactors must then be closed to start the vehicle. **Prior to closing the opened contactors**, energy is transferred from the high voltage energy storage device to the high voltage bus for **precharging** the high voltage bus.
>
> The precharging prevents an instantaneous short from occurring when the contactors eventually close. The

> precharging ends when the high voltage bus is sufficiently charged and the contractors close.
>
> **After precharging**, but **before the entire powertrain is enabled**, the system waits in a state where the high voltage bus is enabled but a primary energy source, typically an internal combustion engine or a fuel cell system, is temporarily disabled. This is referred to as "**prestart**."
>
> During such prestart, experimental testing indicates some degradation can occur to a low voltage battery coupled to the low voltage bus. In particular, the degradation can occur when the accessory loads powered by the low voltage bus are operated during extended periods of prestart, such as when the ignition key is in the run position and the lights or radio are on. Accordingly, there exists a need to limit such degradation to the low voltage battery. (Pages 1-2, Lines 21-21, emphasis added)

As shown above, "precharging" corresponds with charging the high voltage bus before the contactors close and "prestart" corresponds with powering electrical loads prior to enabling the entire powertrain. The Applicants submit the meaning of these terms is clear and that the amendments mentioned above did not add any new matter to the application since the amendments were made for clarify the usage of the same throughout the application.

102(b) Rejection Over Nishimura

Claims 1-22 stand rejected under 35 U.S.C. § 102(b) as being anticipated by the Nishimura patent. This rejection includes independent claims 1, 10, 19, which each include limitations generally directed towards controllably transferring energy from a high voltage bus to a low voltage bus during vehicle prestart.

The "prestart" corresponds with a period of time occurring after contactors associated with "precharging" the high voltage bus are closed and before the primary powertrain is enabled, i.e., before the engine begins to run.

The Nishimura patent fails to disclose transferring energy from a high voltage bus to a low voltage bus during "prestart." The Nishimura patent only discloses transferring energy between the buses when vehicle is off (prior to precharging) or when the primary powertrain is enabled (engine is running). It fails to disclose transferring energy at any other period of time, let alone during "prestart."

Accordingly, the Applicants submit the Nishimura patent fails to disclose each limitation recited in independent claims 1, 10, and 19 such that these claims and the claims that depend therefrom are patentable and non-obvious over the Nishimura patent.

Notwithstanding the foregoing, the Applicants kindly request the Examiner to more particularly point out the rejection to each of the claims. All of the claims are rejected in a single paragraph without particular reference to any of the claims. For example, the Examiner has failed to point out any portion of the Nishimura patent that makes reference to "prestart."

The Examiner's blanket reject is particularly problematic with respect to addressing the rejections of claims 16, 19, 21, and 22. These claims include key limitations directed towards"prestart" over "precharging" and sensing contactor positioning in order to differentiate between the same. The Examiner and the Nishimura patent fail to address any of these claim limitations.

Conclusion

By this paper, the Applicants have attempted to better define the issues for appeal and have limited the remarks for that reason. The limitations on these remarks, however, are made without prejudice to any other positions available to the Applicants. The review panel is respectfully request to consider the issues above and to provide a ruling on the same.

Respectfully submitted,

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